Grade 8 Mathematics Sample Performance Task Student Worksheet

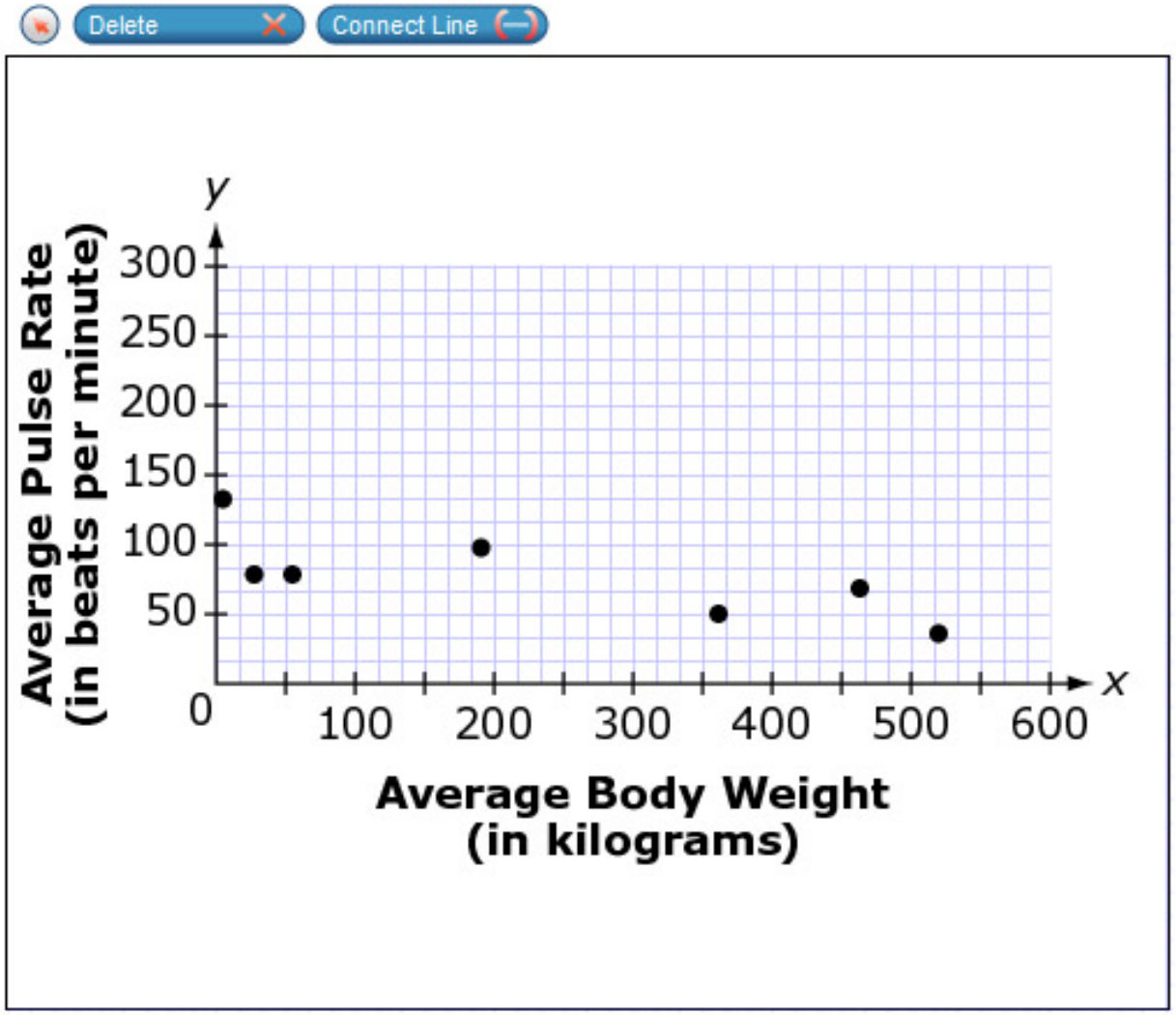
In this task, you will use data to create a model that shows the relationship between animal body weight and pulse rate measures. Then you will examine additional data to evaluate your model.

A study states that the relationship between an animal's pulse rate and body weight is approximately linear. The study data are below.

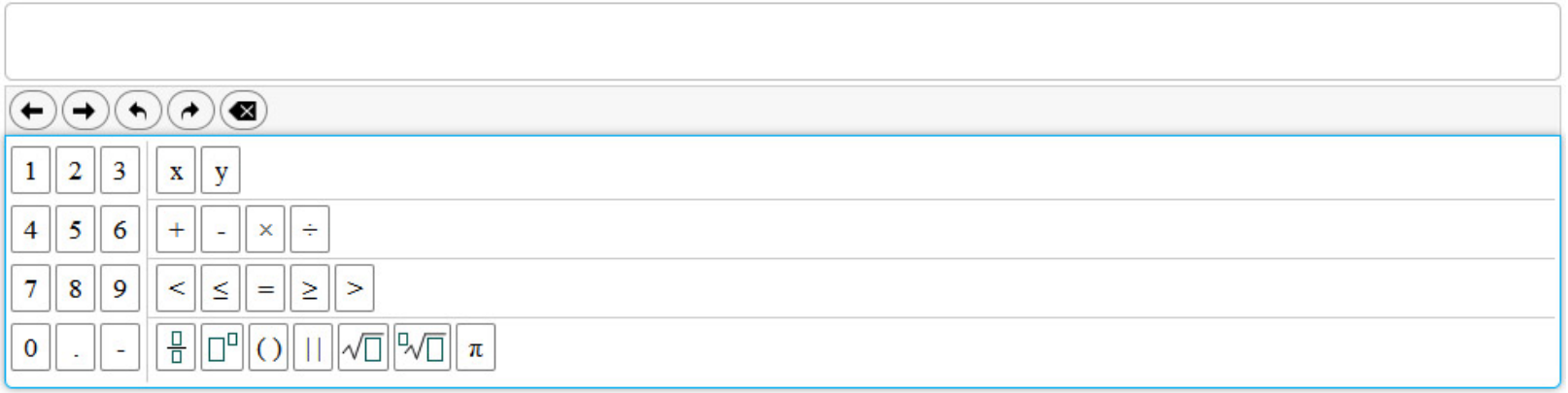
Table 1. Average Body Weight and Average Pulse Rate of Seven Animals

Animal	Average Body Weight (in kilograms)	Average Pulse Rate (in beats per minute)
Cat	3	130
Goat	28	75
Sheep	56	75
Pig	192	95
Ox	362	48
Cow	465	66
Horse	521	34

1. The data from Table 1 are plotted below. Use the Connect Line tool to create a linear model of these data.



2. What is the equation of the line that you drew in Item 1?

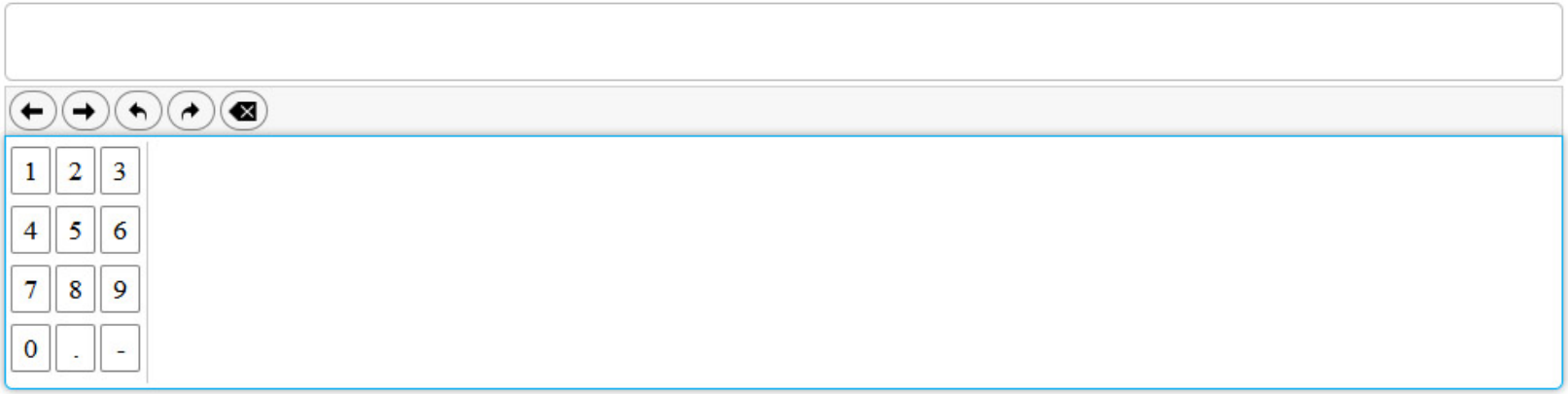


3. Interpret the slope of the line from Item 1 in the context of the situation.

Type your answer in the space provided.

4. ***Part A***

Based on the equation from Item 2, predict the average pulse rate in beats per minute, of an animal that weighs 6000 kilograms.



5. ***Part B***

Explain whether the predicted average pulse rate in Part A is reasonable in the context of the situation.

6. The body weight and pulse rate of a guinea pig and rabbit are given in the table below.

Animal	Average Body Weight (in kg)	Average Pulse Rate (in beats per minute)
Guinea Pig	1	250
Rabbit	2.5	265

If the study had included these data, would this change the model relating average body weight and average pulse rate? How do you know?